Facilitating First Year Students' Engagement with Planning Education: Utilising Student Affinity for Technology to Increase Cohort Cohesion and Decrease Attrition

Mellini Sloan, Severine Mayere and Robert Webb, Queensland University of Technology

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ABSTRACT

First year students overwhelmingly indicate that a strong interest in a field of study prompts them to enrol in university (McInnis et al 2000), yet over a quarter indicate that they have seriously considered dropping out of studies during their first year, with boredom most frequently cited by those domestic students who do depart before graduation (Coates and Ransom 2011). While it may be comforting to write off such withdrawals to the presumed apathy of youth, student "disquiet (in) their first year on campus may be a result of courses and institutions that do not match their needs and objectives, rather than any uncertainty or lack of purpose on their part" (James et al 1999). Voting with their mouse clicks, the current research investigate two conceptualized types of student participation in online discussion forums to increase understanding of student affinity for technology and its potential for fostering social network development amongst first year students.

INTRODUCTION

Faced with the challenge of engaging ever increasing cohort of increasingly tech savvy students, many of whom, frustratingly, seem to stay the same age as those tasked with overseeing their education grow older – how do we, as educators, stay relevant? Research indicates that students enter university to study fields that they are really interested in – they overwhelmingly indicate that a strong interest in their chosen field of study has prompted them to enrol in university (McInnis et al 2000). First year students, and more particularly high school leavers[2], enter university in a period of great transition. For the most part they leave a highly controlled environment where they are told what shirts, shoes, and socks they may wear five days a week, and enter a world where it is unlikely that their absence from a large lecture theatre will be noticed. In the absence of roll call, academic faculty must rely on students' continued interest in their chosen field of study to prompt them to turn up, much less undertake prescribed readings in advance of doing so. Over a quarter of students seriously contemplate withdrawal from studies in their first year, and although logically students who do so are not around to drop out again in subsequent years, there are stark differences in attrition between commencing and continuing students. Although those domestic students who do drop out before graduating cite boredom with studies as justification (Coates and Ransom 2011), allowing for the easy out of chalking up our losses to the fickle nature of the young, we are perhaps continuing to try to engage today's students under last decades (at best) paradigms.

The current research first looks at patterns of enrolment and attrition in the Queensland University of Technology's (QUT) undergraduate planning program to establish the case for *why* first year student attrition is troubling. The research also looks at how addressing engagement with specific types of students (e.g., school leavers versus non-school leavers, domestic versus international students) can help improving retention. The background section of the paper addresses these patterns and aids in crafting specific need for the literature review that follows. Mixed quantitative and qualitative methods are then used to evaluate active and passive engagement with other students and academic staff towards cohort cohesion and subsequent feelings of belonging.

BACKGROUND

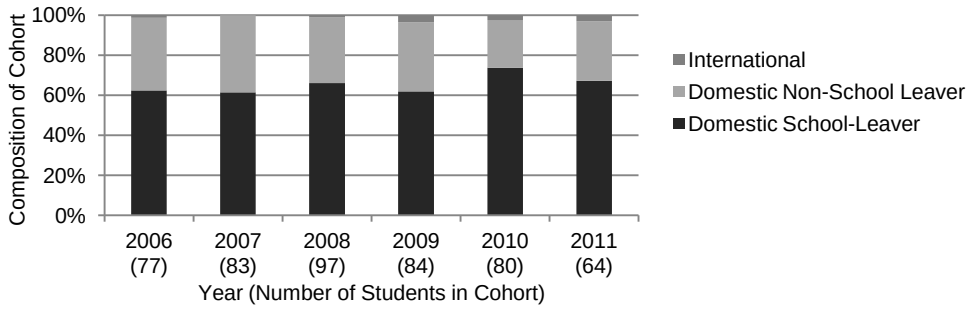
<u>The Institutional Context</u>

[1] Proceedings should be cited as Butt, A & Kennedy, M, 2012 (eds) The Proceedings of the Australia and New Zealand Association of Planning Schools 2012 Conference, La Trobe University, Bendigo Australia

[2] High school leavers (school leavers) are generally those Australian students who enter university straight after completion of Year 12 of high school (Soutar and Turner 2002), while some universities, including QUT, include students who undertake a gap year, deferring enrolment for up to twelve months after admission, in this category. Non-school leavers are not necessarily older students - Queensland Tertiary Admissions Centre (QTAC) (n.d.) categorises applicants as school leavers only if they are an Australian citizen or permanent resident completing Year 12 in an Australian school in the current year. Mature aged students, by contrast, exist as the sub-set of non-school leavers over 21 years of age (Commonwealth of Australia 2008).

FIGURE 1: Changing Composition of Commencing Planning Cohorts

Data Source: QUT Admissions & Enrollment



QUT regularly solicits expressions of interest for Learning and Teaching (L&T) projects aligning with university-wide objectives in support of strategic change. Such projects are intended to aid in curriculum renewal, embed and sustain improved student learning outcomes, and build academic staff capacity in learning and teaching. The current research is part of a project funded under the L&T grants scheme, and focuses on student retention and progression, particularly in the first year of studies, through the design of curricular and co-curricular activities to promote inclusion of students in discipline activities. As such the project fits into long-term plans for change within the university, whereby increased emphasis is placed upon development of more comprehensive approaches to strengthening student engagement with their learning and with the university.

The Course Context

QUT's undergraduate planning program's commencing cohorts are composed predominantly of domestic school leavers. These students, as shown in Figure 1, have generally constituted between sixty and seventy percent of the enrolling class over the past five years. Although international student enrolments have been increasing, they remain at comparatively miniscule levels in the undergraduate course. Domestic non-school leavers make up most of the remaining thirty to forty percent of commencing classes, with noticeably decreased representation in the 2010 commencing class. Interestingly, cohort size increased steadily from 2006 to 2008, with decreasing enrolments from 2009 to 2011. The authors believe that it is possible that the decrease in enrolments since 2009, along with the decreased representation of non-school leavers may be linked to the perceived decreased employment prospects following the Global Financial Crisis, but these ideas remain at a conversational level at this point. The cohort sizes have, however decreased despite increased pressure to expand access to tertiary education in Australia.

FIGURE 2: Attrition Rates for Planning Cohorts

Data Source: QUT Admissions & Enrollment

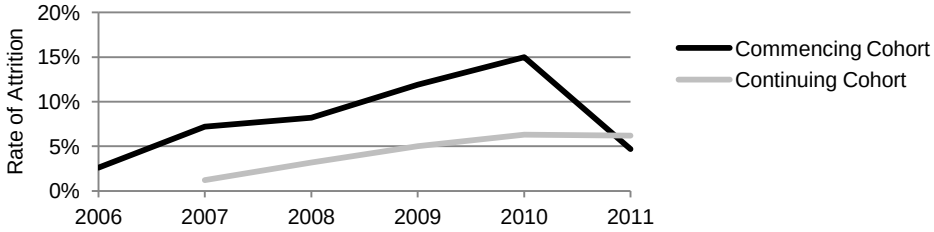


Figure 2 presents data on attrition rates for commencing (first year) and continuing (non-first year) planning students at QUT over a five year period. Attrition is tracked at QUT as students who exit the university, and does not capture numbers of students who change course (e.g., planning to architecture). In the years leading up to 2010, commencing cohort attrition rates increased, peaking in the same year in which the relative proportion of non-school leavers among the commencing cohort decreased. It is unclear what caused the increases, or what subsequently caused attrition to plummet in 2011. Interestingly in 2011 commencing cohort attrition dropped below continuing cohort attrition, inverting their previous relationship.

The Unit Context

This project builds upon initial, relatively naïve changes to a first year, first semester introductory unit (UDB161 Introduction to Planning & Design) which, while experiencing strong "success" in student reviews, lacked an efficient and effective way for addressing communications between students and teaching staff relative to queries about theory and connections between theory and the "real world". The same coordinator

has had responsibility for the unit since 2010. Prior to 2011, students lobbed emails at the unit coordinator en masse, often with questions that other students might well have been able to help answer. Consequently, students developed relationships of dependency upon academic staff, and did not seem to naturally form connections with their peers. Much of the connection between students was mediated by the teaching staff. Commuting in and out of campus, first year students seemed separate from their studies and isolated, with cohesive cohorts, beyond small group friendships, anecdotally noted by students as not really forming until their fourth and final year of studies.

LITERATURE REVIEW

Student Engagement & Retention

Determinants of student retention and, perhaps more importantly, progress to completion of university studies are widely studied, perhaps owing to levels of attrition and non-timely completion. Attewell (2011) and colleagues note, for example, that nearly 40% of American students commencing four year university degrees will not have completed them six years later. While university admissions criteria can select for previous academic performance as a proxy for academic preparedness for university studies, other factors, such as student engagement with their chosen university programs, bear heavily on attrition (McKenzie and Schweitzer, 2001). Student engagement has long been believed to be heavily influenced by "match," or lack thereof, between student and university (Tinto, 1975), with engagement potentially being a stronger predictor of attrition, having greater influence than previous academic performance and personality (Terenzini and Pascarella, 1978). This is of particular importance for learners who are already at risk (Commonwealth of Australia, 2009), and is believed to "largely determine student success" at university, especially in the first year (Upcraft et al, 2005).

The Special Case of First Year Students

Performance of first year students, and consequent continuation of studies beyond first year (retention), is interlinked with notions of social and academic integration (engagement). First year students who do not feel integrated not are more likely to drop out, however the determinants of first year attrition are complex, hinging upon a combination of factors. Individual student characteristics, institutional characteristics, and external pressures influence upon student performance and retention, with other interactions with both faculty and peers further shaping the first year experience (Harvey et al, 2006). Long and colleagues (2006) found that students self-identify a combination of personal and university-related factors as contributing to their own attrition. Frequently cited factors included perceived needs for personal breaks from study, difficulties with balancing study and work commitments, and changes in career goals (Long et al, 2006; Scott et al, 2008). Further studies reinforce these findings. For instance, in their 2010 study of First Year Experience in Australian Universities, James and colleagues find that students enrolled full time and working at the same time are at risk of withdrawing and potentially dropping out (James et al, 2010, 23).

Much research has been undertaken to further explore first year student engagement and retention, examining interrelationships between expected determinants of attrition. Factors existing prior to commencement of study, including student expectations, aspirations and characteristics, interact with their institutional experiences at university to consequently influence academic and social integration (Tinto, 2002; Heirdsfield et al, 2008). This interaction affects decisions such as discontinuing a degree by pushing students to re-consider their goals and intentions. Some of the determinants of first year attrition exist at the institutional level. Scott and colleagues (2008) investigated the inter-relationships between a range of institutional variables and retention. Their findings show a significant negative correlation between student-staff ratio and retention, and positive, significant correlations between the following variables and retention:

- mean and median university entry scores;
- enrolment as a descriptor for size of university;
- years since accreditation as a descriptor for age of university;
- proportions of school leavers amongst admitted students;
- proportions of full-time students;
- total revenue per equivalent full-time student load;
- proportion of self-generated income; and
- proportion of students in the architecture and building FOE.

An aggregate of median entry score, proportion of full time students and size of university was found to be the most successful predictor of retention rate (Scott et al, 2008). Other, more nuanced institutional factors have also been found to influence upon retention, including: commitment to student welfare, commitment to education of all students, and commitment to initiation of students into academic and social communities of an institution (Braxton et al, 1995).

Student interactions and relationships with peers also bear upon retention outcomes. Social expectations and the degree of student's social integration have a direct and positive influence on the decision to stay or withdraw (Helland et al, 2001-2002), while feelings of isolation and disconnect have been found to negatively influence individual student retention (Tinto, 1995: Peel, 2000). Students' social interactions, by promoting engagement, can aid in both retention and overall performance, underscoring the value of social capital within the university. Social capital can enhance students' experience by providing benefits such as friendship, trust and self-confidence, information and guidance, and resources and opportunities (Thomas, 2002b). Students engaged in friendships, mutual support and social networks have access to support to overcome difficulties, which plays a very important role in decision to stay or not at university (Thomas, 2002). Learning communities or small group learning can foster social networks and related social capital (Tinto, 2002; Thomas, 2002b), as can collaborative teaching and learning practices. Pedagogical methods, such as promotion of small group collaborative learning, can increase feelings of engagement, as can collaborative or socially oriented teaching and learning practices which promote social relations amongst students and between students and staff (Thomas, 2002a).

Given the recognised unique challenges faced by first year students, many universities have drafted specific policies and created programs aimed at improving the so-called *first year experience* to increase engagement and retention. Contemporary studies indicate levels of success, including James and colleagues (2010), who posit in their review of Australian universities that:

> ....good progress has been made in improving the transition to university and the quality of the educational experience for first year students. The investment in high quality transition programs and in monitoring and responding to the needs and experiences of first year students is yielding dividends ... During the next decade, the first year will be a critical time for retention and for establishing sound patterns of study and academic engagement, perhaps even more so than now. (James et al, 2010, 7)

University-level programs often identify key challenges for first year students, integrating existing research with local context. For example, the University of Queensland's (2004) working party report, *Creating a positive first year experience*, identifies six key issues noted in the research as raised by students as hindrances or modifiers to levels of involvement with their university studies. Issues include time management (juggling work and study leading), unease with studies (lack of challenging learning experience, uncertainty about program choice, course selection, and first preference), isolation (from others and from university life) and potentially consequent uncertainty about where to get help.

Shifts in Student Preferences for Interaction with Studies

Research on contemporary students indicates that they "think and process information fundamentally differently from their predecessors" as they were born into a world of ubiquitous technology (Prensky, 2001, p. 1). Today's students have near universal access to mobile communication technologies (Kennedy et al, 2006) and indeed see "the screen (as) a fundamental part of (their) daily routines" (Gilroy 1998, 5). They exhibit a high level of interest in communicating with others, with "80% of students texting daily" (Kennedy et al, 2006) and distaste for traditional pedagogy, with "little patience for lectures, step-by-step logic, and 'tell-test' instruction" (Prensky 2001, 3). Instead they desire adaptive, highly interactive learning environments (Roberts, 2005) and expect faculty proficiency in "use of technology to better communicate expert knowledge" (Roberts 2005, 3.4).

Student preferences for where those interactions occur may vary, but how they would like them to occur can be inferred from their social interactions outside of studies. Bugeja (2006) anecdotally establishes the extent of students' preferences for online interaction, and academic staff's surprise at learning such:

> Michael Tracey, a journalism professor at the University of Colorado, recounts a class discussion during which he asked how many people had seen the previous night's NewsHour on PBS or read that day's New York Times. "A couple of hands went up out of about 140 students who were present," he recalls. "One student chirped: 'Ask them how many use Facebook.' I did. Every hand in the room went up. She then said: 'Ask them how many used it today.' I did. Every hand in the room went up. I was amazed." (Bugeja, 2006, C1)

The impact of these preferences are contested. Kirschner and Karpinski (2010) negatively link student self-reported use of Facebook with both GPA and hours spent studying, hours spent studying, but did not find significant differences between Facebook users and non-users with regard to the number of hours spent online. More recently, Junco (2012) established the number of hours spent on Facebook as a strong negative predictor of university GPA, interestingly "half as strong of a predictor as the strongest single predictor of college Grade Point Average (GPA), high school GPA" (195). He introduces a more nuanced understanding of student use of the tool, however, in that student time spent in the behaviour he describes

as “Facebook checking” (196) did not reduce time spent studying, offering the following clarification along with a call for additional research:

> Put in different terms, time spent on the academic task of studying does not seem to be influenced by time spent on Facebook even though time spent on Facebook is negatively related to GPA (Junco, 2012, 196).

It is possible that in addition to helping students with “the formation of weak ties, which serve as the foundation of bridging social capital” (Ellison et al, 2007, 1146), participation in forums like Facebook helps reduce student perceptions of isolation.

Embracing Digital Communication in Unit Design to Decrease Attrition

Pedagogical models which simply transition traditionally delivered lectures to web-based presentations limit realization of the potential for university learning to build upon student preferences for use of digital communication. Indeed if mobile technologies are used solely for content delivery, they can perpetuate “a didactic, teacher-centred paradigm (which is)…pedagogically regressive” (Herrington and Herrington, 2007). However, the devices hold potential for increasing student engagement, particularly as they can foster dialogues amongst students as well as between students and academic staff. Soon and colleagues (2008) note that the effective incorporation of communication technologies into teaching practice can facilitate compilation, communication, and revision of shared knowledge. Further, such communications can function as “trigger(s) and platform(s)…(providing) guidance and support for learning methods and the learning process” (Silander et al, 2004, 1), potentially aiding in realization of a model of “cognitive apprenticeship (which) embed(s) learning in activity and make(s) deliberate use of the social and physical context” (Brown et al 1989, 32). The communications themselves enhance problem-based learning (Naismith et al, 2004) and have potential to extend learning into informal settings, using technology as a means to an end in response to “an increasingly mobile lifestyle” (Sharples et al, 2009, 236). More specifically, the use of blogs as learning spaces in university courses has been identified as a potential transformational technology that can provide students with a high level of autonomy while simultaneously providing opportunity for greater interaction with peers (Williams and Jacobs, 2004). This blurring of lines between campus and off-campus life may aid in realization of underlying university education goals, “support(ing) collaborative learning experiences that place the concepts learnt in their real setting” (McGreen and Sanchez, 2005, 213). Benefits for academic staff are manifold, as the burden of maintaining correspondence with individual students in growing cohorts is decreased. Further, such changes in pedagogy may potentially stimulate reflective teaching practice, resulting in “two steps forward for the pedagogy / technology, one step back for reflection and mindful planning of subsequent steps” (Mioduser et al, 2000, 74). Given increasing pressures for publication, innovative practice and the scholarship of such practice may allow for garnering three birds with one stone – improvements in student learning outcomes, teaching evaluations, and HERDC counts.

METHODOLOGY

The present research investigates first year students’ engagement with university studies, formation of social networks, and challenges faced early in studies, examining levels of participation, and the products of such, in social media components of a first year first semester unit with a cohort of 93 students. The unit is an introduction to basic planning and design theories and principles. Frequency of participation data was drawn from records of comments posted in and visits to the limited access unit blog (shared amongst the unit) to determine levels of engagement by the cohort as a whole. Active participation levels were determined by the percent of students in the unit actively posting to the blog, while passive participation was defined by the number of overall visits to the site relative to the unit enrolment.

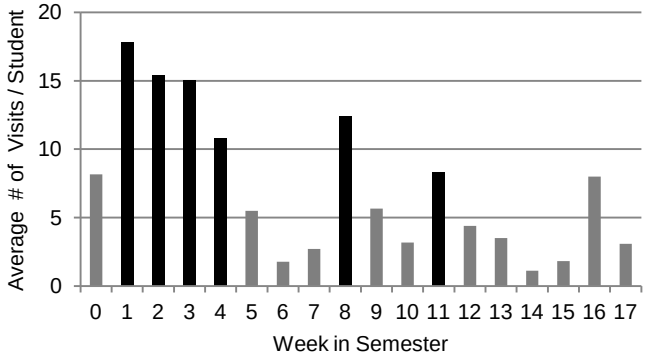
As a supplement to participation data on the weekly blog posts and visits, the researchers reviewed the content of student posts in a highly quantitative manner, looking for evidence of student formation of social networks over the course of the semester.

RESULTS OF ANALYSES

Students were required to post entries, and awarded marks for doing so, in six specified weeks throughout the semester, with initial active participation nearly universal (94%) in week 1 gradually declining to 75% after four repeated weeks of required postings, and dropping further to 67% and 63% after multi-week breaks from required posts to accommodate other assessments in the unit and in other units in the first year course.

Figure 3 shows levels of presumed passive engagement with the blog tool and consequently with other students and academic staff. It is important to note that the blog tool registers visits to each page in the tool as a separate visit, a frustrating reality of software. There were, however, a limited number of pages for

FIGURE 3: Passive Engagement with Unit Social Media



NOTE:
Weeks in which blog posts were required are indicated by darker shading.

students to visit, with only eighteen generated over the course of the semester, eight of which were part of initial content. What follows is a detailed analysis of interactions on the unit blog in Weeks 1-4, when students were regularly engaging in the use of the online tool while adjusting to other new experiences at university.

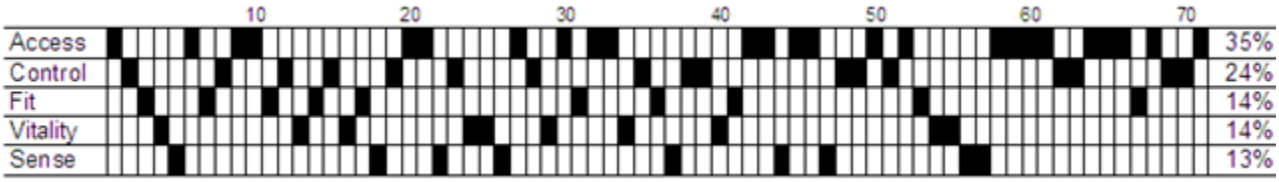
Students were invited to access the blog prior to the start of the semester, partially accounting for the relatively high average number of visits per student in Week 0, with academic staff's frequent bug-checking likely inflating visits in this week. Students receiving the electronic invite may, however, have been eager to "explore" the territory of their new course, seeking to engage with new colleagues and clear up possible unease through review of the initial eight pages on the site. Week 1, however, was a shock to those administering the blog, as over 1,600 hits were registered, which, even standardized relative to the number of students in the unit yields an average of 18 visits, or potentially page views, per student at the start of semester. This data is less surprising though, given the noted high levels of active participation in Week 1. Presumably students returned to the blog to read others' posts – they were certainly encouraged to do so. While several students did comment in direct response to others' posts, finding similarities with other students (e.g., "You're from Gympie? So am I!"), observable interactions were initially limited. Students repeated themes (discussed at length below) from each others' posts but did not directly indicate that they were engaging with others. Passive participation declines somewhat over the next four weeks as did active participation, but remained at levels far in excess of what would be anticipated if students were only dropping in to post their own response and not return.

While week 1 questions focussed on introducing students to each other, Week 2 required that they begin to engage with unit content and activities. As part of the Week 2 unit meeting, students first heard from a guest lecturer involved in the planning and management of a nearby mixed-use development. Following upon the guest lecture, students travelled to the development in groups, undertaking informal exploration of the area with teaching staff. Week 2 blog questions prompted students to contemplate explore ideas of "what" makes a place while further engaging in construction of social networks. Initial reading of students posts indicates that they were reading others' writing, at least in advance of writing their own responses, using phrases like "I tend to agree with" another student's ideas. Some indicated formation of social networks and an increased level of comfort in querying colleagues, posing requests for help with posting photos they wanted to share – notably these requests were not directed solely at teaching staff but rather at the unit lecturer or "anybody else who might know". Frustratingly, however, responses to such requests, at least, came only from teaching staff – perhaps students were not yet comfortable taking on such roles.

In an effort to overcome some of the challenges noted in Weeks 1 and 2, in Week 3 the students were presented with a structured set of questions aimed at establishing each of them as someone with something to share. The first part of the question required that they advocate for or against master planned communities, encouraging interaction with the unit lecture and allowing for development of a positional discussion. They were also prompted to select a feature of campus to naively analyse relative to its use by other students, as we would cover methods of analysis in the subsequent week. Most interesting, however, were there responses to a request to list five resources for learning about urban planning. The unit coordinator indicated that she not only "hope(d) to learn which unit resources (students) found helpful, (but also) to find out about some new resources" – internet savvy students might ferret out gems, and in sharing

resources build networks. Students were explicitly encouraged to read each others posts, but, in a lack of foresight on the part of teaching staff, were not directed to then comment on those posts. As such, students did not reply specifically to each others posts with the frequency anticipated. They did, however, seem to be reading posts, with a student responding to the unit coordinator's request to know how to embed a video posed to another student.

FIGURE 4: Patterns of Student Selection of Topic for Response



Although passive engagement rates remained somewhat stable over Weeks 2 and 3, they declined sharply in Week 4. During this week, students were beginning to engage with professional planning documents and underpinning theories, likely stepping out of their comfort zones and into the "dark matter" of the unit. Students were prompted to review the recent *Creating places for people: An urban design protocol for Australian cities,* comment upon its readability and offer elementary level critique ("what do you like or dislike about it?"). They were also directed to select one of Lynch's (1981) performance dimensions of urban space, being vitality, sense, fit, access, and control, to briefly discuss relative to the university's campus. Part of the directions of the post encouraged students to somewhat actively interact with others' responses, directing that "if you're not the first to post, please look at your colleagues' postings and consider selecting a dimension that has not yet been addressed, or not been addressed by as many people, so that we get coverage across all five". Wonderfully, in the fortieth response, a student indicates that she has not only read others' posts to determine coverage, but also synthesises multiple students' responses before adding on her own ideas. Figure 4 shows patterns and frequencies of selection of dimensions considered by students in their posts. In the first five posts the students progressed through a linear cycle, demonstrating that they had read the previous posts at least quickly to determine topic choice. Continued progress through the post records indicates that students still looked at others posts, but not necessarily the full cycle. Interestingly, however, distributions remained relatively even across the five dimensions (29%, 23%, 16%, 18%, 14%) through the end of the pronounced cycle at response 57 when the deadline for posts neared. From this we can perhaps infer that student passive engagement with other students' ideas declines precipitously as time pressure increases.

CONCLUSIONS

Incorporating social media into teaching requires more than just enabling options within Blackboard or signing up for a WordPress account. Productive student interactions in online forums requires faculty consideration of unit composition and continued attention to the dynamics of student posts. While engagement and retention have been found to be linked to "actions of the faculty, especially in the classroom" (Tinto 2006-7, p. 5), they are often not tied to faculty perceptions of our own work. Although we "publicly proclaim the importance of retaining each and every student, (we) typically do not see retaining students as (our) job", an idea reinforced by the absence of rewards for such in considerations of promotion and tenure (Tinto 2006-7, p. 9). Kift (2008b), reflecting on retention of first year students, proposes that improving reducing attrition requires cultural shifts among faculty so that it becomes "everybody's business." Clearly, though, embedding engagement with students requires that we *know* them a bit better, and adjust our pedagogical practice to meet their needs while preserving academic rigor. Blogging, as a form of micro-publishing, can be used as a communication tool to enhance student learning, participation, sense of belonging and retention.

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